

# Material: ISO 46 Cr 2 E

## Standard Specification for Mild Steel Alloys Bar and Rod

**Group:** Ferrous Mild Steel Alloys

**Sub Group:** ISO 46 Cr 2 E Mild Steel Alloys Bar and Rod

**Application:** Intended for Valve, Pump, General Engineering, Automotive and Other Industries

**Grade Belongs to the Industry:** Bar and Rod

| Chemical Composition |      |               | Heat Treatment                                                                                                                                                                                                    |  |
|----------------------|------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Carbon               | C %  | 0.420 - 0.500 | As Raw or Annealing or Normalizing or Hardening and Tempering                                                                                                                                                     |  |
| Silicon              | Si % | 0.400 max.    |                                                                                                                                                                                                                   |  |
| Manganese            | Mn % | 0.500 - 0.800 |                                                                                                                                                                                                                   |  |
| Phosphorus           | P %  | 0.035 max.    |                                                                                                                                                                                                                   |  |
| Sulphur              | S %  | 0.035 max.    |                                                                                                                                                                                                                   |  |
| Chromium             | Cr % | 0.400 - 0.600 |                                                                                                                                                                                                                   |  |
| Iron                 | Fe % | Balance       |                                                                                                                                                                                                                   |  |
| -                    | -    | -             | <b>Mechanical Properties</b><br>Tensile Strength in Mpa 600 min.<br>Yield Strength in Mpa 400 min.<br>Elongation in % 12 min.<br>Reduction of Area in % 58 min.<br>Hardness in BHN -<br>Impact in Joule 25 J @ RT |  |
| -                    | -    | -             |                                                                                                                                                                                                                   |  |
| -                    | -    | -             |                                                                                                                                                                                                                   |  |
| -                    | -    | -             |                                                                                                                                                                                                                   |  |
| -                    | -    | -             |                                                                                                                                                                                                                   |  |
| -                    | -    | -             |                                                                                                                                                                                                                   |  |
| -                    | -    | -             |                                                                                                                                                                                                                   |  |
| -                    | -    | -             |                                                                                                                                                                                                                   |  |

| Cross Reference Table |          |                |                              |
|-----------------------|----------|----------------|------------------------------|
| Material              | Standard | Country        | Grade Belong to the Industry |
| 46Cr2                 | EN       | European Union | Bar and Rod                  |
| 1.7006                | EN       | European Union | Bar and Rod                  |
| 46 Cr 2 E             | JIS      | Japan          | Bar and Rod                  |
| 1.7025                | AFNOR NF | France         | Bar and Rod                  |
| 46 CrS 2              | AFNOR NF | France         | Bar and Rod                  |
| 1.7025                | BS       | British        | Bar and Rod                  |
| 46 CrS 2              | BS       | British        | Bar and Rod                  |

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